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ABSTRACT

The Concerns-Based Adoption Model (CBAM), which was developed over the past 25 years through the Research and Development Center at the University of Texas at Austin, identifies seven stages of concern involved in implementing an innovation: awareness, information, personal concerns, management concerns, consequences, collaboration, and refocusing concerns. Hypothetically, an individual's concerns profile would have a wave motion of intensity as the person moves from unawareness and non-use of an innovation into beginning use, and then more highly sophisticated use. The stages of concern about an innovation can be measured by a quick-scoring Stages of Concern Questionnaire (SoCQ); the raw scores from SoCQs are converted into percentile scores which can be plotted on a graph per individual score, as well as producing a group composite score. Based on CBAM assumptions and the findings of other research on innovation implementation, implications of CBAM for library managers and those who facilitate implementation in libraries are: (1) change is a process, not an isolated event, so change requires adequate time to resolve staff concerns, particularly at the lower SoC levels; (2) concerns are natural occurrences with new innovations; (3) concerns occur in sequence and are developmental in nature, making it possible to anticipate predictable patterns of behavior; (4) change begins with individuals; and (5) the stages of concerns about the innovation can be measured by the SoC Questionnaire. The conclusion calls for library change facilitators to examine and consider this model when implementing new technological programs. A brief bibliography, definitions of the individual stages of concern, and a chart depicting the hypothesized development of the stages of concern are appended. (JB)

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MEASURING LIBRARY STAFF CONCERNS DURING TECHNOLOGICAL CHANGE

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Human acceptance is a key to successful adoption of new technology. How are information leaders responding to that statement? The human-side-of-technology was the theme of the First National Library and Information Technology Association Conference. A change expert and psychologist, Sara Fine, was hired as staff by the School of Library & Information Science at the University of Pittsburgh. Library Journal published Michael Malinconico's trilogy[1,2,3] on technology and change. With clarity information scientists see personnel as important as the business and mechanical aspects of computerization. What is not so clear is the day-to-day management of a staff faced with major change.

Frequently the library manager must guess what a staff is thinking. This paper addresses the need to pinpoint perceptions, feelings and concerns of a library staff in the midst of automating systems and suggests a strategy for measuring those reactions. Specifically this paper reviews the Concerns-Based Adoption Model and describes how a facilitator of change in a library could use the model to gain understanding, data and interventions for the human factors involved with change. Consequently the librarian as change facilitator could better manage implementation of a new system.

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BACKGROUND

The Concerns-Based Adoption Model (CBAM) was developed over the past twenty-five years through the Research and Development Center at the University of Texas at Austin. The model grew from research on implementation of educational innovations in school and college settings.

A pioneer of the concepts basic to the model was Frances Fuller, a counseling psychologist, who observed the mental health of student teachers. She found that concerns of student teachers occurred in a natural sequence beginning with concerns about self ("I wonder if I can do it?"); progressing to concerns about the task ("I don't have enough time to prepare for the next day!"); and finally impact concerns ("Are the children really benefiting?"). In the 1970s Fuller along with other researchers at the University of Texas at Austin found that this development pattern could be applied to practicing teachers involved in implementing a variety of innovations. In time the seven Stages of Concern About the Innovation (SoC) were identified. See figure I.

In addition to establishing the seven stages, research verified a predictable pattern of intensity across concerns during innovation adoption. Initially, Stages 0, 1 and 2, Awareness, Information and Personal Concerns, were most intense. As implementation actually began, Stage 3, Management Concerns, became the most intense with Stages 0, 1 and 2 lessening in intensity. With time after a successful adoption of an innovation, the impact concerns, Stages 4, 5 and 6, Consequences, Collaboration and Refocusing Concerns, became the

most intense. Hypothetically, an individual's concerns profile would have a wave motion as the person moves from unawareness and non-use of an innovation into beginning use and then more highly sophisticated use. See figure II.

It is recognized that figure II represents an idealized picture of SoC profiles. However, resolution of earlier concerns may not be accomplished simply with more knowledge, time and experience. Many other factors could affect concerns. For instance, the innovation may be basically a bad one. Skill and intellectual requirements may be beyond the person's capabilities. Other demands on the person may assume a higher priority in the person's life space. In general, though, a person's concerns about an innovation develop toward the later stages with time, successful experience and the acquisition of new knowledge and skill.

The Stages of Concern About the Innovation can be measured by a quick-scoring SoC Questionnaire (SoCQ). The raw scores from SoCQs are converted into percentile scores which can be plotted on a graph per individual score as well as group composite score. Once data is gathered and interpreted by someone trained in CBAM, the next step is to respond with interventions which are focused on the most intense concerns at that time. CBAM literature provides general interventions per SoC.[5] For example, a staff whose peak concern is management, Stage 3, should respond most favorably to interventions focused on using the innovation and organizing time demands brought on by the innovation. Change facilitators would be wise to offer how-to information for a staff at Stage 3. A staff at Stage 3 would gain little from a presentation on the impact of the innovation to library

users and, in addition, may be angry at time spent away from learning the mechanics of the system.

IMPLICATIONS OF CBAM FOR LIBRARIES

Based on CBAM assumptions[6] and the findings of years of research on implementation, the following statements should be of interest to library managers and those who facilitate implementation in libraries.

1. Change is a process, not an isolated event. Change requires adequate time to resolve staff concerns at the lower SoC levels which then allows middle and later stages to amplify. What is expected of the library change facilitator is careful planning which includes monitoring of staff perceptions, feelings and attitudes.
2. Concerns are natural occurrences with new innovations. Change facilitators in libraries need to understand this and other aspects of the change process that comprise the Concerns-Based Adoption Model, a model that has grown from two decades of research and use.
3. Concerns occur in sequence and are developmental in nature. Therefore a predictable pattern of library staff concerns can be anticipated and interventions developed as needed.
4. Change begins with individuals. Before institutions change, individuals must have changed. Therefore the primary focus of interventions should be individuals and this implies knowing their Stage of Concern About the Innovation.

5. The Stages of Concern About the Innovation can be measured by the SoC Questionnaire. A person certified by CBAM cadre members can measure and interpret data plus suggest interventions per result of their diagnosis.

Of particular interest to information scientists would be a CBAM study to diagnose a library staff adopting an automated circulation system. The staff was monitored using four SoCQ measurments over a two-year period. For this study Stage 4, Consequence, statements were altered on the SoC Questionnaire. The word "patron" was substituted for the word "student" in each question about Consequence. The substitution would prevent misinterpretation in the library context while upholding the validity of the instrument. The application of CBAM in this study demonstrated to be an efficient and inexpensive diagnostic tool. "The Stages of Concern about the Innovation did provide the library administration with guiding concepts as well as understanding of the change process. Library decision makers confirmed the usefulness and practicality of the SoC Questionnaire to produce timely, reliable data during innovation implementation."[7]

CONCLUSION

CBAM concepts are valuable for understanding and managing the change process. The model is a practical and inexpensive diagnostic tool which includes intervention guidelines for the change manager. Library change facilatators should examine and consider using the model when implementing new technological programs.

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Figure I. Stages of Concern About the Innovation

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about herself/himself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects and requirements for use.

2 PERSONAL: Individual is uncertain about the demands of the innovation, her/his inadequacy to meet those demands, and her/his role with the innovation. This includes analysis of her/his role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling and time demands are utmost.

4 CONSEQUENCE: Attention focuses on impact of the innovation on students in her/his immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

6 REFOCUSING: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

Figure II. Hypothesized Development of Stages of Concern